

THE INFLUENCE OF EXTENDED IN-PORT WORKING
HOURS: **HRM SURVEY SUPPLEMENTAL ITEMS**

Edmund D. Thomas
Kent S. Crawford

Reviewed by
Robert Penn

Released by
Richard C. Sorenson
Director of Programs

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PERSONNEL RESEARCH AND DEVELOPMENT CENTER, **SAN** DIEGO, CA 92152
TELEPHONE: AUTOVON **933-2232**, COMMERCIAL (714) **225-2231**.

Navy Personnel Research and Development Center
San Diego, California 92152

FOREWORD

This effort was conducted in response to a request from Commander, Naval Military Personnel Command (NMPC-6), to analyze responses to 13 supplemental HRMC survey items. These items were developed by NMPC-6 and were designed to examine the effects of in-port working hours on morale and personnel retention.

RICHARD C. SORENSON
Director of Programs

SUMMARY

Problem

Commander, Naval Military Personnel Command (NMPC-6) developed 13 supplemental items for the Human Resources Management (HRM) survey. These items were designed to examine the effects of in-port working hours on morale and personnel retention.

Purpose

The purpose of this effort was to determine whether extended in-port working hours affect morale and personnel retention.

Approach

The 13 items were administered along with the regular HRM survey to 2678 crew members of six Atlantic fleet ships, between July and September 1978. Responses were then analyzed by pay grade and career intention.

results

Long working hours appear to be more related to the overall morale of a ship and to unauthorized absences (UAs) than to retention. Lowered morale in lower-ranking personnel is caused by their failure to understand the need for longer in-port working hours and the failure of higher-ranking personnel to effectively communicate the reasons for such hours. Living conditions and job stress were chosen as the most important factors influencing decisions to leave the Navy.

Conclusions

Since the scope of the items and the sample population were not adequate to fully address the issues, the following conclusions are stated with reservations:

1. The greatest negative impact of long working hours appears to be on morale. At some point, further extensions of working hours may reduce morale to the point where it affects overall productivity.

2. More effective communication of the need for extended in-port working hours might reduce the drop in morale among lower ranks.

3. The relative impact of extended working hours on retention appears to be small. Habitability and living conditions have a greater impact on retention, as do other social, economic, and organizational factors.

Recommendations

1. While a clear link between morale and productivity was not established, there may be ~~some~~ optimal trade-off between length of working hours and productivity. Further investigation ~~seems~~ warranted.

2. The relationship of habitability or living conditions and reenlistment decisions should be defined by further research.

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INTRODUCTION

Problem

Commander, Naval Military Personnel Command (NMPC-6) developed 13 supplemental items for the Human Resources Management (HRM) survey. These items were designed to examine the effects of in-port working hours on morale and personnel retention.

Purpose

The purpose of this effort was to analyze the responses to the 13 items to determine whether extended in-port working hours affect morale and personnel retention,

APPROACH

The 13 items were administered along with the regular HRM survey to 2678 crew members *of six* Atlantic fleet surface force ships between July and September 1978. At that time, all ships were in their homeports. As shown in Table 1, 94 percent of the respondents were enlisted personnel and about one-half of them were in pay grades E-1 through E-3.¹

Response means and percentages of personnel answering each item alternative were computed for the entire sample and for subgroups defined by pay grades. Responses were also analyzed in terms of respondent's career intention (i.e., whether the person planned to reenlist, was undecided, or planned to leave the Navy) within each pay grade.

¹This sample was not intended to be representative of all Navy ships, *but* rather a sample of convenience. Thus, one must be cautious in generalizing the findings of this study to larger Navy populations.

Table 1
Distribution of Respondents by Pay Grade

Pay Grade/Rank	Number Responding	Percentage of Total
<u>Enlisted</u>		
E-1--E-3	1230	46
E-4--E-5	951	35
E-6	224	8
E-7--E-9	124	5
	<hr/>	<hr/>
Subtotal	2529	94
<u>Officer</u>		
O-1--O-2	71	3
O-3	31	1
O-4+	47	2
	<hr/>	<hr/>
Subtotal	149	6
Total	2678	100

RESULTS AND DISCUSSION

Effects of In-port Working Hours

The first 10 items were questions about various effects of in-port working hours (e.g., on morale, time for family, etc.). Respondents were asked to indicate the extent of these effects, using a five-point scale, where 1 = To a very little extent, and 5 = To a very great extent.

The overall responses for these items are provided in Table 2. Although the average responses to these items were generally the same as those obtained for items in the "core" HRM survey (e.g., means of about 3.00), variations in the range of answers for these items, as indicated by their standard deviations, were about 1-1/2 times that usually found with HRM survey items. Thus, there seemed to be less agreement among respondents on these items than on those in the rest of the HRM survey. This wider range of responses could be due to confusion as to what the items were asking, variations in the number of hours

Table 2

Responses to Items on Effect of In-port Working Hours: Total Sample

Item/Question	Percentages of Respondents ^a						Mean ^a	Standard Deviation
	1	2	3	4	5	NA		
1. To what extent does the length of your in-port working hours have an effect on your morale?	7	8	19	22	43	1	3.9	1.3
2. To what extent are you given some time off when your in-port work week is extended?	29	21	29	13	6	2	2.6	1.3
3. To what extent have extended in-port working hours contributed to unauthorized absences in your command?	10	11	22	21	3%	4	3.6	1.4
4. To what extent does your in-port work schedule interfere with your expectations of time available for family and/or social activities?	10	12	25	22	29	2	3.5	1.3
5. To what extent are extended in-port work hours the results of unavoidable requirements imposed on your command by higher authority?	12	14	37	17	15	5	3.2	1.3
6. To what extent do you understand the reasons for extended working hours in port?	22	15	30	20	11	2	2.9	1.4
7. To what extent are you convinced that from time to time extended working hours in port are necessary?	15	15	30	23	15	2	3.1	1.3
8. To what extent are the number of hours you work in port in a week important in influencing your job satisfaction?	11	11	29	25	22	2	3.4	1.3
9. To what extent does the length of your in-port working hours have an effect on your intention to remain in the Navy?	21	12	18	16	31	2	3.3	1.6
10. To what extent do your physical working conditions in port affect your intention to remain in the Navy?	20	12	20	17	30	1	3.3	1.5

^aResponse alternatives to these items are scaled, where 1 = To a very little extent and 5 = To a very great extent.

worked across different departments and ships, or actual differences in how respondents felt about each question. For these reasons, results should be interpreted with caution.

Table 3 presents responses to these items by pay grade. To simplify presentation of the data, the two lowest response categories were combined, as were the two highest. The various items are discussed in the following paragraphs.

1. Effect of Working Hours on Morale. Sixty-five percent of the respondents answered that the length of their in-port working hours had a great or very great effect on their morale. The high degree of agreement across enlisted and officer grades shown in Table 3 suggests that the effect is felt at all levels of the command. Even among O-4s and above, over 50 percent felt that the length of in-port working hours had a great effect on their morale.

2. Time Off for Extended Working Hours. Responses to this item indicate that compensatory time is given more often to those at the higher pay grade/ranks. As shown, about half of the E-1--E-5 respondents said that such time off was given to a little or very little extent. As pay grade goes up, however, the percentages giving positive (high-end) answers goes up. This pay grade effect is similar to results from many other items on the HRM survey. In the present case, individuals at higher levels in the chain of command probably have more control and flexibility in scheduling their working hours.

3. Working Hours and Rates of Unauthorized Absences (UAs). The strongest support for the hypothesis that extended in-port working hours can affect UA rates within the command was given by E-1--E-6 respondents. Since this group includes both those most likely to be involved in UAs and their first-line supervisors, their responses seem to merit greater weight than those of individuals at higher pay grade levels, who may not have first-hand knowledge of the causes of UA problems.

Table 3

Responses to **Items** on Effect of In-port
Working Hours--By Pay Grade

Pay Grade/ Rank	Very Little or Little Extent (%)	Some Extent (%)	Great or Very Great Extent (%)	Mean ^a
1. <u>To what extent does the length of your in-port working hours have an effect on your morale?</u>				
E-1--E-3	18	22	60	3.72
E-4--E-5	11	16	73	4.08
E-6	18	20	62	3.78
E-7--E-9	14	22	64	3.85
O-1--O-2	11	20	69	3.99
O-3	13	13	74	3.87
O-4+	13	34	53	3.53
2. <u>To what extent are you given time off when in-port work week is extended?</u>				
E-1--E-3	54	29	17	2.36
E-4--E-5	50	32	18	2.47
E-6	41	32	27	2.75
E-7--E-9	29	31	40	3.10
O-1--O-2	50	23	27	2.66
O-3	41	45	14	2.55
O-4+	31	27	42	3.18
3. <u>To what extent have extended in-port working hours contributed to UAs?</u>				
E-1--E-3	22	19	59	3.63
E-4--E-5	20	22	58	3.66
E-6	25	22	53	3.51
E-7--E-9	34	30	36	3.03
O-1--O-2	34	27	39	3.07
O-3	41	26	33	2.89
O-4+	29	29	42	3.13
4. <u>To what extent does in-port working schedule interfere with expectations of time available for family and/or social activities?</u>				
E-1--E-3	21	23	56	3.60
E-4--E-5	20	25	55	3.61
E-6	17	37	46	3.47
E-7--E-9	36	26	38	3.01
O-1--O-2	29	20	51	3.41
O-3	23	23	54	3.61
O-4+	30	36	34	3.11

^aBased on responses to a 5-point scale, 1 = To a very little extent, and 5 = To a very great extent.

Table 3 (Continued)

Pay Grade/ Rank	Very Little or Little Extent (%)	Some Extent (%)	Great or Very Great Extent (%)	Mean ^a
<u>5. To what extent are in-port working hours the result of unavoidable requirements imposed on your command by higher authority?</u>				
E-1--E-3	27	40	33	3.06
E-4--E-5	26	39	35	3.11
E-6	26	37	37	3.16
E-7--E-9	30	36	34	3.10
O-1--O-2	28	30	42	3.28
O-3	23	25	52	3.48
O-4+	22	22	56	3.65
<u>6. To what extent do you understand the reasons for extended working hours in port?</u>				
E-1--E-3	47	30	23	2.53
E-4--E-5	40	32	28	2.73
E-6	20	33	47	3.35
E-7--E-9	13	20	67	3.80
O-1--O-2	12	22	66	3.87
O-3	13	19	68	3.90
O-4+	4	17	79	4.20
<u>7. To what extent are you convinced that from time to time extended working hours in port are necessary?</u>				
E-1--E-3	38	31	31	2.82
E-4--E-5	30	37	33	2.99
E-6	14	27	59	3.66
E-7--E-9	11	23	66	3.82
O-1--O-2	13	18	69	3.99
O-3	10	16	74	4.03
O-4+	7	20	73	4.13
<u>8. To what extent are the number of hours you work in port in a week important in influencing your job satisfaction?</u>				
E-1--E-3	25	32	43	3.26
E-4--E-5	20	30	50	3.46
E-6	15	28	57	3.16
E-7--E-9	29	22	49	3.26
O-1--O-2	29	26	45	3.21
O-3	23	19	58	3.61
O-4+	32	28	40	3.09

^aBased on responses to a 5-point scale, where 1 = To a very little extent, and 5 = To a very great extent.

Table 3 (Continued)

Pay Grade/ Rank	Very Little or Little Extent (%)	Some Extent (%)	Great or Very Great Extent (%)	Mean ^a
9. <u>To what extent does the length of your in-port working hours have an effect on your intention to remain in the Navy?</u>				
E-1--E-3	33	17	50	3.30
E-4--E-5	29	18	53	3.44
E-6	35	21	44	3.10
E-7--E-9	54	17	29	2.53
O-1--O-2	38	21	41	3.04
O-3	45	26	29	2.68
O-4+	66	8	26	2.30
10. <u>To what extent do your physical working conditions in port affect your intention to remain in the Navy?</u>				
E-1--E-3	32	20	48	3.30
E-4--E-5	26	20	54	3.47
E-6	36	21	43	3.06
E-7--E-9	47	20	33	2.69
O-1--O-2	40	18	42	3.01
O-3	55	19	26	2.55
O-4+	50	17	33	2.67

^aBased on responses to a 5-point scale, where 1 = To a very little extent, and 5 = To a very great extent.

4. Working Hours and Family/Social Activities. Responses to this item, which are generally less negative than perceptions about the effects of working hours on morale, show interesting differences by pay grade with more negative effects for younger, more junior respondents. Long working hours have about the same effect for E-1--E-5 and O-1--O-3 respondents. The lower effect for E-7--E-9 and O-4+ respondents may be because senior personnel are better able to schedule some of their work so that it doesn't interfere with personal activities.

5. Higher Authority as the Reason for Extended In-port Working Hours. Although only about one-third of the enlisted respondents felt that extended working hours were, to a great or very great extent, the result of higher authority requirements, it may be unrealistic to expect enlisted personnel to be aware of such requirements. Among officers, who are assumed to be better informed and more aware of such demands, the corresponding figure is about 50 percent. Except for E-7--E-9s, the percentage of respondents attributing extended working hours to higher authority increases as pay grade increases.

6. Understanding the Reasons for Extended In-port Working Hours. As shown, as pay grades increase, the percentage of respondents who understand the reasons for extended hours increases. (Given this trend, it seems surprising that the respondents at lower grades did not report greater impact of extended working hours on their morale (Item 1).) Less than a third of E-1--E-5 respondents and less than half of E-6 respondents reported that they understood the reasons for extended working hours, compared to over two-thirds of the senior enlisted and officers. This finding clearly shows a need to examine and improve shipboard communications.

7. Necessity for Extended In-port Working Hours. Again, responses show a consistent pay grade effect, with higher pay grades reporting they are more convinced of the necessity for extended working hours. O-1--O-3 respondents

are more convinced of the need for extended working hours (and understand the reasons to a greater extent) than are enlisted personnel. The impact on the morale of the two **groups** is about the same, however (Item 1).

8. Working Hours and Job Satisfaction. About half of both officers and enlisted personnel reported that the number of hours they worked influenced their job satisfaction to a great or very great extent. This influence was highest among E-6s and **0-3s**. Officers at the 0-4+ level reported the least influence of working hours on satisfaction, perhaps because they enjoyed their jobs the most or because (as noted earlier) they did not expect long working hours to interfere with other activities in their personal lives.

9. Working Hours and Intention to ~~Remain~~ in the Navy. The responses for lower level officers (~~0-1--0-3~~) and enlisted personnel (~~E-1--E-6~~) suggest that working hours are an important factor influencing career decisions. This effect diminishes at the higher levels--and **as** more career-oriented individuals comprise the pay grade groups. Even at the top enlisted (~~E-7--E-9~~) and officer (**0-4+**) levels, however, over one-fourth of respondents indicated **that** working hours affected their career intentions. ~~One~~ can only speculate on whether working hours per se or the greater pressure and stress caused by heavy job requirements have the most effect on career intention.

10. Physical Working Conditions and Intention to Remain in the Navy. Response patterns to this item were similar to those for Item 9, suggesting that working hours and working conditions are similarly related to the intention to remain in the Navy.

Number of Working Hours

~~Item~~ 11 asked respondents how many hours per week they were required to be aboard ship while in port. Since this time may include both working hours and watch hours, some respondents, given the phrasing of the question, may have

included nonduty shipboard time in their estimates. As shown in Table 4, the time required aboard was about the same across the different enlisted pay grades, averaging 58 hours per week. Averages for officers were about 62 hours for 0-1--0-2s and 53 hours for 0-4s and above.

Table 4
Responses on Item on Number of Working Hours

Pay Grade/Rank	Hours					Mean
	40-50 (%)	51-60 (%)	61-70 (%)	71-80 (%)	81+ (%)	
E-1--E-3	30	27	25	10	8	59
E-4--E-5	30	32	22	10	6	58
E-6	30	32	22	11	5	58
E-7--E-9	26	44	16	11	3	57
0-1--0-2	13	29	34	18	6	63
0-3	20	30	30	10	10	61
0-4+	44	37	16	3	0	53

Comparative Importance of Working Hours

In ~~Item~~ 12, respondents were presented with a list of five factors and asked to indicate which would most influence them to leave the Navy. As shown in Table 5, however, a number of relevant factors, such as pay, fringe benefits, etc., that could affect retention decisions, were not included. Also, the question was not sufficiently clear to permit unambiguous interpretation of the results. For example, "poor living conditions" was the reason most frequently cited by enlisted respondents. Although it cannot be denied that shipboard habitability is not as good for enlisted as for officer personnel, it is not clear whether these respondents meant shipboard habitability conditions, inadequate off-base housing, or lack of sufficient income to achieve an adequate standard of living.

of the five choices, it appears that length of working hours ranks third in overall importance, except for middle managers in pay grades E-7 through O-2. Comparing only working hours and working conditions, E-1--E-6 respondents indicated that working hours would influence their leaving more than working conditions, while the reverse was true for E-7--E-9 and officer respondents. Overall, the large amount of variability of responses across pay grades supports one obvious conclusion: all of the factors cited have some negative effects on retention.

Table 5
Responses to Item on Factors Influencing Retention

Pay Grade/Rank	Factor				
	Working Hours (%)	Working Conditions (%)	Stress, Pressures (%)	Watches, Duties (%)	Living Conditions (%)
E-1--E-3	17	11	26	8	38
E-4--E-5	14	11	21	11	43
E-6	14	11	30	9	36
E-7--E-9	10	15	28	13	34
O-1--O-2	15	17	29	22	17
O-3	23	27	33	7	10
O-4+	19	28	19	6	28

Department Working Conditions

The last item asked respondents to compare their department's working conditions with those in other departments. As shown in Table 6, E-1--E-3 respondents, more than those in any other pay grade, compared their departments' working conditions unfavorably with those in other departments. Such perceptions are probably accurate in view of the kinds of duties that E-1--E-3 personnel are often assigned (e.g., chipping paint, mess cooking, and cleaning compartments). The generally negative outlook of this group is consistent with many of the results described earlier; that is, E-1--E-3s most often reported that they didn't understand the reasons for long working hours, didn't think long working hours were necessary, and were not given time off to compensate for working long hours.

Table 6

Responses to Item on Departmental Working Conditions

Pay Grade/Rank	Very Unfavorable or Unfavorably	About same	Favorably or Very Favorably	Mean
E-1--E-3	44	29	27	2.74
E-4--E-5	34	27	39	3.02
E-6	27	33	40	3.19
E-7--E-9	25	27	48	3.35
O-1--O-2	18	33	49	3.50
O-3	16	23	61	3.77
O-4+	19	28	53	3.55

Extended Working Hours and Career Intentions

Another **HRM** survey item asked respondents about their career intentions. Based on responses to this item, respondents in each pay grade group were classified as to whether they intended to reenlist, were undecided, or planned to leave the Navy. Responses to the 13 supplemental items were then analyzed in terms of respondent's career intention. Results showed that those who intended to remain in the Navy responded more favorably to these items than those who were undecided or who planned to leave; that is, they saw less impact of extended working hours on morale, **UAs**, satisfaction, etc., than did the other groups. These findings are not surprising since most other **HRM** survey analyses have shown that individuals who are undecided or plan to leave the Navy tend to have more negative perceptions than those who **plan** to stay.

Some pay grade differences were observed: E-1--E-6 respondents planning to leave the Navy were less convinced of the necessity for extended working hours, and were more likely to believe that adverse working conditions played a role in their decision to get out of the Navy than were E-1--E-6s who were undecided or who intended to remain. Results of the analyses are somewhat inconclusive

since the decision to leave the Navy may result in unfavorable perceptions of the working environment rather than the other **way** around.

CONCLUSIONS

The use of 13 items supplemental to the HRM survey is not sufficient to examine and thoroughly address an area as complex as the effects of extended in-port working hours on morale and career decisions. While such a procedure can provide a cursory overview of perceptions among personnel, it fails to provide the complete information needed to understand issues related to this problem. As a result, the following conclusions are stated with reservations:

1. Long working hours appear to have a greater impact on morale and UA rates than on retention. The relative impact of extended working hours on retention **may** be small as compared to numerous other social, economic, and organizational factors.
2. The failure to effectively **communicate** the need for longer working hours seems to be a key issue in lower morale among lower ranks.
3. Overall, no clear conclusions can be drawn regarding the impact of extended working hours on intention to remain in the Navy. Since retention is the result of numerous factors, many of which are beyond the control of the individual command, one would not expect working hours alone to be a prime determinant of reenlistment intention. Nonetheless, since long working hours impact negatively on morale, UA rates, and job satisfaction, it follows that they would also have a detrimental effect on overall command effectiveness.

RECOMMENDATIONS

1. Among the factors addressed by the items, long working hours appear to impact most negatively on morale. While a clear link between morale and productivity was not established, there may be some optimal trade-off between length of working hours and productivity. At some point, further extensions of working hours may reduce morale to the point where it affects overall productivity, Although this hypothesis is speculative, it warrants further investigation.

2. More effective communications to lower ranks about the need for long in-port working hours is recommended. Such communication should be designed to result in greater personal commitment and might reduce the effect of low morale in this group.

3. Habitability and living conditions have an obvious (though not explored) influence on reenlistment decisions. For example, long working hours, in combination with poor (perceived or actual) working and living conditions, may intensify the effects of these factors. This should be investigated in future research,